9.0 Alternatives Development

In addition to the strategies and recommendations of this study that can be applied as stand alone improvements, incrementally, or as part of other strategies and recommendations, this study developed a range of alternatives for both the urban segment of the corridor and the US 14/61/WIS 35 intersection. This section discusses the process for the development of the alternatives. A detailed description of each alternative developed as part of the study is included in (Section 10.0, Strategies and Recommendations).

All of the alternatives include consideration of access management strategies and implementation of multi-modal accommodations. Because this study is separate from the National Environmental Policy Act (NEPA) process, it was not within the scope of this study to select a preferred alternative for the study area.

The mainline alternatives were developed to address the long-term vision of the urban segment. There were two levels of alternative development that occurred over the course of the study. In the first level, a preliminary analysis of each alternative was performed. The primary goal of the first level was to determine the most feasible alternatives that should be examined in greater detail. The second level of analysis included a more refined look at design, impacts, and costs.

9.1 Mainline Alternatives Analysis Level 1

The first level of analysis was intended as a preliminary investigation and cursory development of potential alternatives for South Avenue/Mormon Coulee Road. In the first level, alternatives were conceptual in detail. Analysis included such factors as capacity, LOS, commercial and residential acquisitions, pedestrian and bike friendliness, aesthetic potential, and effect on private access along the corridor. A matrix was developed to compare the alternatives. With the exception of capacity and LOS, the factors were developed in a qualitative manner with descriptors used such as good, fair, and poor. For the LOS analysis, three segments were identified based on uniform characteristics. The segments included:

- Segment A – Green Bay Street to East/Ward Avenue
- Segment B – East/Ward Avenue to Pammel Creek
- Segment C – Pammel Creek to US 14/61/WIS 35 Intersection

Alternatives initially considered included:

- Three-lane Two-Way-Left-Turn-Lane (TWLTL)
- Four-lane Variable Width Median
- Five-lane Two-Way-Left-Turn-Lane (TWLTL)
- Six-lane Facility with Median
- Hybrid Alternative
- No-build Alternative

9.1.1 Level 1 Eliminated Alternatives

The Three-lane Two-Way-Left-Turn-Lane (TWLTL) and Six-lane Divided Facility alternatives were eliminated from further consideration after the

level 1 analysis was completed. The two alternatives are included here to provide a brief description and the reason they were eliminated.

9.1.1.1 Three-lane Two-Way-Left-Turn-Lane (TWLTL)

This alternative included the conversion of the existing four-lane facility north of East Avenue/Ward Avenue into a three-lane facility. The center lane would be a Two-Way-Left-Turn-Lane.

The three-lane TWLTL was evaluated to determine its ability to address anticipated traffic volumes in 2030. Current AADT on this portion of the corridor is 25,500 and is anticipated to reach 31,000 by 2030. With only the single through lane in each direction, even with the ability to remove left-turning vehicles from the main traffic stream, this alternative would result in increased delays and congestion in 2030. The capacity of a three-lane section is typically less than 20,000 vehicles per day. The current and forecast volumes are well above that, and it is likely that this alternative would function at a LOS F. State highway facilities located in urban environments are typically designed to operate at least LOS D or better.

The alternative was eliminated from further consideration early in the study process because of its inability to accommodate anticipated traffic volumes in 2030. It did not offer substantial improvement over the No-build Alternative and was therefore unlikely that it would be implemented.

9.1.1.2 Six-lane Divided Facility

This alternative would consist of three through lanes in each direction with a center median running the entire length of the corridor.

Though this alternative would operate at LOS B, it would also have substantial impacts to commercial and residential properties along the corridor. It would offer the same bike accommodations as the Level 2 alternatives, and similar aesthetic enhancement opportunities as the Four-lane Variable Width Median Alternative. Access along the corridor would be limited to right-in/right-out in the majority of instances with u-turns allowed at mid-block median openings where feasible.

This alternative was eliminated from further consideration because it was determined that the other alternatives could adequately handle the amount of anticipated traffic in 2030. WisDOT would continue to evaluate traffic and land use along the corridor and within the region to determine the need for eventual implementation of a six-lane alternative if and when it would be warranted beyond 2030.

9.2 Mainline Alternatives Analysis Level 2

Four alternatives from the first level of analysis were carried forward based on technical analysis and input from local jurisdictions and the public. In the level 2 analysis, a conceptual geometry was drafted for each alternative. This was done to improve the estimated impacts to the corridor including property acquisitions, right-of-way, LOS, and construction costs. The four alternatives considered in the Level 2 analysis included (see Figure 10, Level 2 Mainline Alternatives Matrix):

- Four-lane Variable Width Median
- Five-lane Two-Way-Left-Turn-Lane (TWLTL)

- Hybrid Alternative
- No-build Alternative

Figure 10 – Level 2 Mainline Alternatives Matrix

South Avenue/Mormon Coulee Road Mainline Altern

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(Green Bay Street to US 14/61/WIS 35 Intersection)

Draft Alternatives	Peak Hour Level of Service - 2030			Pedestrian Friendliness	Bike Friendliness	Aesthetic Potential	*Commercial Acquisitions	*Residential Acquisitions	*
	**Segment A	**Segment B	**Segment C						
4-lane Variable Width Median	C	C	C	GOOD	GOOD	FAIR	15 - 19	5 - 9	
5-lane Two-Way-Left-Turn-Lane (TWTL)	C	D	D	FAIR	FAIR	POOR	16 - 20	14 - 18	
Hybrid	C	D	D	FAIR	FAIR	FAIR	14 - 18	8 - 12	
***No-build	E	E	E	FAIR	POOR	POOR	0	0	

All alternatives include access management strategies.

*Acquisitions do not include US 14/61/WIS 35 intersection alternatives

**Segment A - Green Bay Street to East Avenue/Ward Avenue

**Segment B - EastAvenue/Ward Avenue to Pammel Creek

**Segment C - Pammel Creek to US 14/61/WIS 35 Intersection

***No-build Alternative includes short-term and intermediate improvements.

10.0 Strategies and Recommendations

The strategies and recommendations developed for the study are organized into five sections:

- Mainline strategies and recommendations including alternatives for the urban segment.
- Intersection strategies and recommendations for both the urban segment and the US 14/61/WIS 35 intersection.
- Access management strategies and recommendations.
- Urban design and corridor aesthetics.
- Regulatory ordinance strategies and recommendations

10.1 Mainline Strategies and Recommendations

Many of the strategies and recommendations for the urban segment of the corridor can be implemented as stand alone short-term improvements or as incremental improvements toward a long-term alternative.

The range of alternatives were developed to provide a long-term vision for the corridor that all the study participants could use as a guide in making decisions directly related to the corridor. It was not within the scope of this study to identify a preferred alternative. As such, all of the alternatives developed are included for consideration.

10.1.1 Short-term Strategies and Recommendations

Short-term strategies and recommendations for the urban segment of the corridor include maintaining the existing four-lane facility with spot improvements. This would include preserving the existing four-lane facility (located north of East Avenue/Ward Avenue) and incorporating spot improvements at various locations. Suggested improvements include modifying the existing six-leg intersections through the closure of some of the intersection legs. Other improvements could include adding right- and left-turn bays, reconfiguring existing intersection geometry, adjusting signal timing and coordination, and access management (see Section 10.2, Intersection Strategies and Recommendations).

The improvement could be implemented with little or no additional right-of-way needs. Though the need to acquire property would be minimal this alternative would not provide adequate bike accommodations along the corridor. It is expected to provide a LOS of D or better in 2030.

Many of the elements of this improvement could also be incorporated into the long-term alternatives.

10.1.2 Long-term Strategies and Recommendations

A range of mainline alternatives were developed to provide a long-term vision for the corridor. In addition to the alternatives, strategies and recommendations pertaining to multi-modal accommodations, local circulation, and intersections were considered.

10.1.2.1 No-build Alternative

Under this option, the existing facility would be maintained as it is. The no-build option would not include short-term improvements such as signal

adjustment, improvements to intersection geometry, access management, or specifically address the six-leg intersections along South Avenue.

The no-build option would not have direct impacts such as changes to right-of-way or private access, but it fails to address long-term impacts from increased traffic pressures on the corridor. This option would operate at a LOS E or worse and does not provide adequate bike or pedestrian accommodations along the corridor. The no-build option provides a baseline for comparison of the alternatives presented within this report.

10.1.2.2 Four-lane Variable Width Median

This alternative consisted of a four-lane divided urban facility with a median extending along the entire length of the corridor (see Figure 11, Four-lane Variable Width Median Typical Section, and Figure 12, Example of a Four-lane Variable Width Median). The median would vary in width from four feet to 20 feet between the face of curb with the widest portion located near intersections to accommodate left-turn lanes. This alternative would also bring the facility up to current WisDOT standards.

With this alternative, many of the existing private driveways along South Avenue/Mormon Coulee Road would be changed from full access to right-in/right-out access with the introduction of a median. Median openings would be provided at mid-block between major signalized intersections where they could be safely accommodated. The mid-block openings would allow u-turns for direction changes to gain access to private driveways along the corridor. This alternative provides the best LOS of the Level 2 alternatives, with a LOS of C along the entire corridor in 2030 under the anticipated traffic.

This alternative provides improved pedestrian and bike accommodations. Pedestrians would be able to cross the roadway in two stages rather than one, with the median providing a pedestrian refuge between crossings. Of all the alternatives, this one has the greatest opportunity to provide mid-block pedestrian crossings, though further analysis would be required to determine their appropriateness.

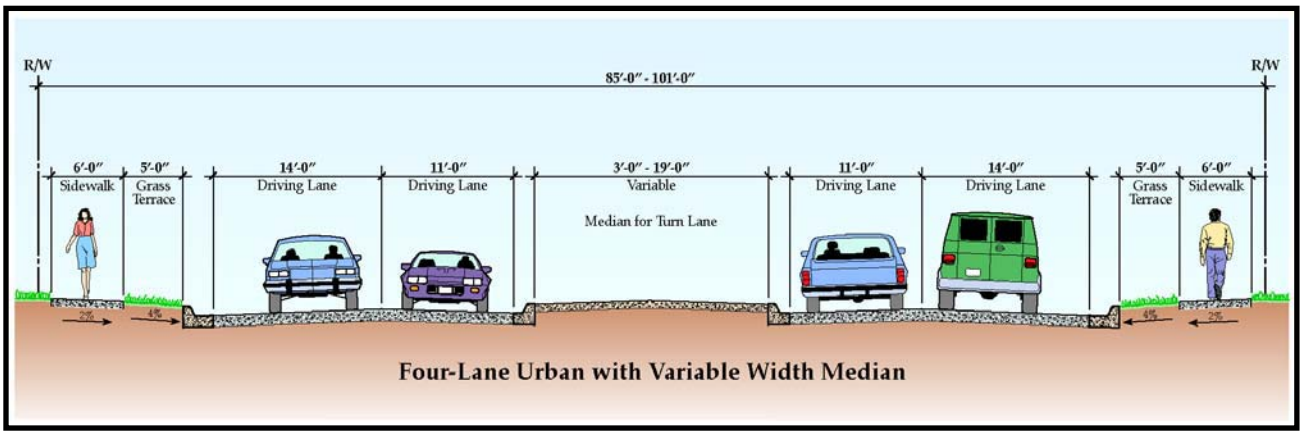
South Avenue/Mormon Coulee Road is not currently a major bike route within the City of La Crosse. With the focus on other parallel bike routes such as on East Avenue and the 33rd Street Trail, it is likely that this corridor would not see significant increases in bike activity in the future. Because of the lower priority of this corridor for bike use in comparison to other options, the need for bike accommodations has been balanced with the impacts that a wider corridor would have on the community. In this alternative, bikes would be accommodated by the provision of a wide 14 foot outside travel lane. Of the level 2 alternatives, this alternative is the safest for bicycle travel because the median would limit the number and location of left-turning vehicles crossing a bicyclist's travel path to enter private driveways. All of the level 2 alternatives would include accommodations for bikes to cross South Avenue at the East/Ward Avenue intersection, providing a connection for the East Avenue bike route.

The addition of a median has the greatest potential for aesthetic enhancements. Median treatments could include grass, decorative plantings, and decorative pavements to enhance the visual landscape of the corridor.

The use of pavement coloring and textures could also be included at pedestrian crossings and other locations to enhance the aesthetics of the alternative.

The estimated construction cost for this alternative would be $7.4 million (not including property acquisition/relocation costs).

Figure 11 – Four-lane Variable Width Median Typical Section



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10.1.2.3 Five-lane Two-Way-Left-Turn-Lane (TWLTL)

This alternative is very similar to what currently exists along Mormon Coulee Road south of East/Ward Avenue. It would extend the TWLTL facility along South Avenue north of East/Ward Avenue, bring the existing facility up to WisDOT standards, and provide short medians at intersections to safely separate left-turn lanes from through traffic (see Figure 13, Five-lane TWLTL Typical Section, and Figure 14, Example of a Five-lane TWLTL). Access along the corridor would be accommodated via a 14 foot center Two-Way-Left-Turn-Lane (TWLTL).

This alternative would require the greatest number of commercial and residential acquisitions of the Level 2 alternatives, primarily because the center turn lane would be wider than a variable width median north of East/Ward Avenue. The alternative would improve traffic operations, especially through the closing of some of the six-leg intersections, but also by removing left-turning vehicles from the through traffic stream. Traffic operations north of East/Ward Avenue would be at a LOS C, with slightly lower LOS south of East/Ward Avenue.

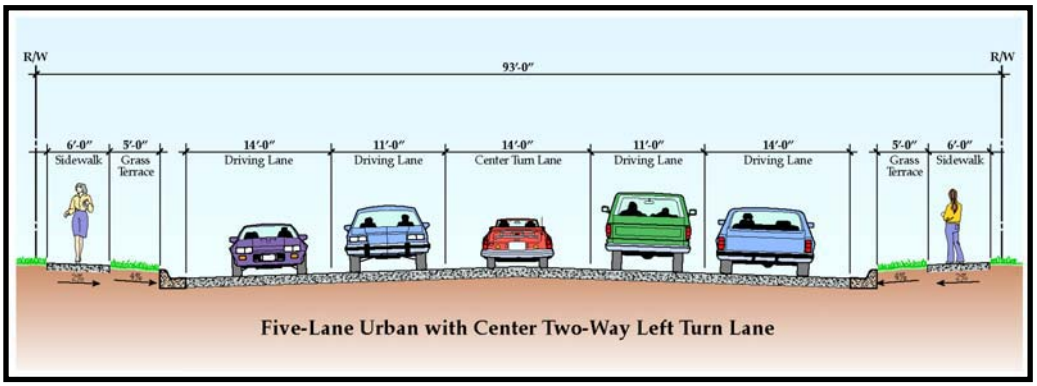
Pedestrian-friendliness would be improved at signalized intersections because of standards changes, however, mid-block crossings would not be possible with a two-way-left-turn-lane. Pedestrians would have to cross a significant roadway width without the benefit of two-stage crossing at unsignalized intersections and mid-block.

This alternative would include 14 foot outside lanes to accommodate bike traffic and a crossing at the East/Ward Avenue intersection. However, the presence of numerous left-turns into private driveways would not make this alternative as safe as the variable width median for bicyclists.

Aesthetically, this is the least favorable alternative for the corridor. Approximately 64 feet of corridor width would be continuous pavement, which would be similar to the existing conditions. Aesthetic enhancements to the pavement color of the center lane could break up the visual landscape of the alternative and enhance the aesthetics of the corridor. Opportunities for textured pavement and plantings would be limited to the sidewalk and terraces along the sides of the roadway.

The estimated construction cost for this alternative would be $7.3 million (not including property acquisition/relocation costs).

Figure 13 – Five-lane TWLTL Typical Section



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10.1.2.4 Hybrid Alternative

The Hybrid Alternative is a combination of both the Four-lane Variable Width Median and the Five-lane TWLTL Alternatives. North of East/Ward Avenue, South Avenue would be a four-lane facility with a variable width median. South of East/Ward Avenue, Mormon Coulee Road would be a TWLTL facility very similar to the current conditions with short medians at the signalized intersections to separate left-turn lanes (see Figure 15, Example of a Hybrid). Traffic operations in 2030 are anticipated to be similar to the Five-lane TWLTL Alternative with LOS C north of East/Ward Avenue, and LOS D for the segments south of this intersection.

Pedestrians would have the benefit of a two-stage crossing at intersections north of East/Ward Avenue and the potential for mid-block crossings with a pedestrian refuge, however, pedestrians would not be afforded this option along the corridor south of East/Ward Avenue.

This alternative includes 14 foot wide outside travel lanes to accommodate bike traffic. Conditions for bikes would be similar to the Four-lane Variable Width Median Alternative north of the East/Ward Avenue intersection and similar to the Five-lane TWLTL Alternative south of this intersection. This alternative would also include a bike crossing of South Avenue at the East/Ward Avenue intersection.

This alternative lies in the middle in comparison to the other two build alternatives from an aesthetics perspective, with opportunities for median treatments north of the East/Ward Avenue intersection, and limited options south of the intersection. The estimated construction cost for this alternative would be $7.4 million (not including property acquisition/relocation costs).

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10.2 Intersection Strategies and Recommendations

Intersection strategies and recommendations include both the urban segment of the corridor and the intersections surrounding the US 14/61/WIS 35 intersection. This section includes the long-term intersection evaluation as part of the mainline alternatives as well.

10.2.1 Short-term Strategies and Recommendations

Short-term strategies and recommendations that should be implemented on a per intersection basis include both traffic signal adjustments and geometric improvements. Several intersections will benefit from improved signal timing, including revised splits, protected left-turn phases, and split phasing for the side streets. Geometric improvements should be made in conjunction with signal adjustments and include modifying lane arrangements and/or restriping approaches.

A more detailed review of existing timing plans was not performed as part of this study but is recommended for short-term signal operations improvement. Signal timing review and adjustment is recommended every three to five years or more often as substantial traffic or land development changes occur. The signalized intersection operations along this corridor would improve with minor signal retiming or phasing adjustments, which are noted below specific to each intersection. Some of these improvements may require new or modified signal heads and associated equipment.

Recommended short-term intersection improvements include:

- West Avenue (WIS 35)/Weston Street – Convert to a four-leg intersection by closing access to and from the minimally used west leg of the five-leg intersection; apply split phasing to northbound/southbound West Avenue approaches.
- East Avenue/Ward Avenue – Add 200 foot right-turn lanes to South Avenue/Mormon Coulee Road; modify the north intersection leg of East Avenue to right-out only; apply split phasing to remaining side-street approaches.
- Losey Boulevard – Modify westbound approach from its current lane configuration (one left, one shared left-through, and one shared through-right) to dual left-turn lanes and one shared through-right lane; apply split phasing to Losey Boulevard approaches; apply permitted-protected phasing for the Mormon Coulee Road approaches.
- Birch Street – Add 200 foot right-turn lanes to Mormon Coulee Road at the Birch Street intersection; on the southwest Birch Street leg, add a 200 foot right-turn lane and modify lanes for a left-turn lane, shared left-through lane, and a right-turn lane; apply split phasing to the Birch Street approaches; apply permitted-protected phasing for the Mormon Coulee Road approaches.
- Broadview/Shelby Road – Add 200 foot right-turn lanes to Mormon Coulee Road; apply permitted-protected phasing for the Shelby Road and Broadview Place approaches.
- Wal-Mart Access – Add a third exit lane from Wal-Mart at the Mormon Coulee Road intersection; modify the eastbound approach (Wal-Mart

egress) for a left-turn lane, shared left-through lane, and a right-turn lane; apply split phasing to the side street approaches; apply permitted-protected phasing for the Mormon Coulee Road approaches.

10.2.2 Long-term Strategies and Recommendations

10.2.2.1 Mainline Intersection Options

The study examined three potential long-term intersection options for major intersections along South Avenue/Mormon Coulee Road. Each of the mainline alternatives includes the intersection options. As shown in Table 14, Mainline Intersection Options, the options include a signalized intersection, a two-lane roundabout, and a three-lane roundabout. Though the previous figures show signals at the major intersections for each alternative, each intersection should be evaluated individually once a preferred alternative is chosen to determine the best possible intersection treatment.

Table 14 – Mainline Intersection Options

Intersection of US 14/61/WIS 35 with:	Existing Geometry		Treatment Options		
	2004 Existing	2030 No Build	Improved Signal	2-Lane Roundabout	3-Lane Roundabout
33rd Street	D	*F*	C	E	C
Wal-Mart Access	C	D	D	*F*	D
Shelby Road	C	*F*	D	*F*	D
Birch Street	D	*F*	D	*F*	C
Losey Blvd	C	D	D	E	C
Victory Street	C	C	C	C	B
East Ave/ Ward Ave	C	D	C	C	B
West Ave/ Weston St	E	*F*	D	D	C

Notes:
> All intersections presently signalized with exception of 33rd Street
> LOS indicates approach Level of Service for 2030 weekday peak hour operating conditions
> The Improved Signalization column includes various modifications to signal operations, side street approaches, and turn lane additions
> Optimized signal timing is assumed in all cases
> Two- and three-lane roundabouts assume WisDOT FDM parameters; LOS based on capacity and FHWA/Rodel methodology

10.2.2.2 US 14/61/WIS 35 Intersection Alternatives

A total of six intersection alternatives were considered for the US 14/61/WIS 35 intersection. The alternatives address anticipated traffic volumes for year 2030. A systems approach was used for this location because of the proximity of numerous other intersections with US 14/61/WIS 35 including 33rd Street approximately 0.33 mile north, and Old Town Hall Road, Riverview Drive, and Sunnyside Drive to the south (see Figure 16, US 14/61/WIS 35 Intersection Alternatives Matrix).

The six intersection (system) alternatives include:

- Signalized US 14/61/WIS 35 intersection and signalized/unsignalized 33rd Street intersection
- Roundabout at US 14/61/WIS 35 intersection and roundabout at 33rd Street intersection
- Roundabout at US 14/61/WIS 35 intersection and right-in/right-out at 33rd Street intersection
- Roundabout at US 14/61/WIS 35 intersection and signalized/ unsignalized 33rd Street intersection
- Interchange at US 14/61/WIS 35 intersection and right-in/right-out at 33rd Street intersection
- Modify existing US 14/61/WIS 35 intersection with southbound to eastbound free-flow ramp and right-in/right-out or unsignalized 33rd Street intersection

In all of the intersection (system) alternatives, access to the Maple Grove Neighborhood would be altered to ensure safe and efficient operations of the US 14/61/WIS 35 intersection. Because of its close proximity to the intersection, direct access to WIS 35 South from Old Town Hall Road would be removed. Riverview Drive access could either be removed via a cul-de-sac or limited to right-in/right-out. Sunnyside Drive access would remain as a full access intersection to accommodate school traffic, and because it is far enough (approximately 0.25 mile) from the US 14/61/WIS 35 intersection to not interfere with its operation. Sunnyside Drive access would be changed to right-in/right-out/left-in for the interchange alternative because of the proximity of the southbound ramp.

All of the alternatives would accommodate four lanes of traffic, though the actual US 14/61/WIS 35 intersection approaches would be handled in differing ways depending on each alternative. In addition, access along Mormon Coulee Road between the US 14/61/WIS 35 intersection and 33rd Street would need further evaluation once a preferred alternative is selected.

For the system alternatives that include a right-in/right-out 33rd Street intersection, the possibility of a right-in/right-out with a northbound left-in 33rd Street intersection could be explored further to determine its feasibility. The northbound left-in would provide access to the mobile home park for vehicles traveling northbound from the US 14/61/WIS 35 intersection.

Figure 16 – US 14/61/WIS 35 Intersection Alternatives Matrix

Alternative	Intersection Alternative									
	Sunnyside Drive	Riverview Drive	Old Town Hall Road	US 14/61/ WIS 35	US 14/61/ WIS 35 Operations	33rd Street	33rd Street Operations	Acres	Estimated Construction Cost	
1	Full Access	Cul-de-sac or RI/RO	Cul-de-sac	Signal	*Good*	*Signal	*Fair*	*0.5*	*$4.9 M*	*Signal and wo*
						Unsignalized	*Poor*			
2	Full Access	Cul-de-sac or RI/RO	Cul-de-sac	Roundabout	*Good*	Roundabout	*Poor*	*1.2*	*$4.6 M*	*Two-la*
3	Full Access	Cul-de-sac or RI/RO	Cul-de-sac	Roundabout	*Good*	**RI/RO	*Good*	*0.7*	*$4.6 M*	*Restric 14/61/*
4	Full Access	Cul-de-sac or RI/RO	Cul-de-sac	Roundabout	*Good*	*Signal	*Fair*	*0.7*	*$4.7 M*	*Signal*
						Unsignalized	*Poor*			
5	RI/RO Left-in	Cul-de-sac	Cul-de-sac	Interchange	*Good*	**RI/RO	*Good*	*11.8*	*$9.7 M*	*Restric 14/61/*
6	Full Access	Cul-de-sac or RI/RO	Cul-de-sac	Existing w/ SB to EB Freeflow	*Good*	**RI/RO	*Good*	*5.3*	*$7.4 M*	*U-turn interse ramp f*
						Unsignalized	*Poor*			

*33rd Street intersection does not currently meet warrants for a signal

**RI/RO - Right-in/Right-out intersection

10.2.2.3 Signalized US 14/61/WIS 35 Intersection

This alternative would consist of an at-grade intersection with a signal located at the junction of US 14/61/WIS 35 (see Figure 17, Intersection Alternative 1). The westbound to northbound movement would bypass the signal via a free-flow ramp. The southbound movement would also be a separate lane that would include a signal for a pedestrian crossing. The other movements through the intersection would be controlled via a signal.

Pedestrians would be accommodated via a sidewalk along the west side of Mormon Coulee Road. A pedestrian crossing would be located on the south side of the intersection providing pedestrian access to the Maple Grove Neighborhood and Southern Bluffs Elementary School.

With this alternative, the 33rd Street intersection was evaluated as both signalized and unsignalized and considered 2030 traffic volumes. The intersection would include dedicated right-turn and left-turn lanes on Mormon Coulee Road for both the northbound and southbound intersection approaches. The dedicated lanes would improve the intersection efficiency by removing turning vehicles from the main traffic stream. The dedicated right-turn lanes would allow greater visibility for left-turning vehicles entering Mormon Coulee Road from 33rd Street. In addition, there would be greater certainty to find gaps in the intersection as drivers executing turns would be clearly visible in the turn-lanes.

As can be seen in Figure 16, US 14/61/WIS 35 Intersection Alternatives Matrix, an unsignalized 33rd Street intersection would experience significant delay on both 33rd Street approaches. The delay would result from a lack of gaps to accommodate left-turns from 33rd Street onto Mormon Coulee Road.

A signalized 33rd Street intersection would function adequately in year 2030, but would not meet warrant criteria for implementation. The warrants for considering the installation of a traffic signal are provided in the Manual on Uniform Traffic Control Devices (MUTCD, 2003 Edition) and include:

- Warrant 1, Eight-Hour Vehicular Volume
- Warrant 2, Four-Hour Vehicular Volume
- Warrant 3, Peak-Hour Vehicular Volume
- Warrant 4, Pedestrian Volume
- Warrant 5, School Crossing
- Warrant 6, Coordinated Signal System
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network

Warrant analysis for traffic signals is typically done on a short-term basis. However, in a planning context such as this, the future hourly flow patterns are estimated so that warrants 1, 2, 3, and 8 can be evaluated. While the already signalized intersections along this corridor meet these warrants in 2030, the intersection at 33rd Street does not. This is primarily due to the low side street volume. The remaining warrants either do not apply at 33rd Street or are also not met.

In addition, a signal at 33rd Street would impact the mobility function of this segment of Mormon Coulee Road, and may impact access from properties between the US 14/61/WIS 35 intersection and 33rd Street. The estimated construction cost for this alternative would be $4.9 million (not including property acquisition/relocation costs).

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10.2.2.4 Roundabouts at US 14/61/WIS 35 and 33rd Street

This alternative includes a two-lane roundabout at the location of the existing US 14/61/WIS 35 intersection (see Figure 18, Intersection Alternative 2). Travel from westbound US 14/61 to northbound Mormon Coulee Road would be accommodated by a free-flow bypass lane. The southbound movement from Mormon Coulee Road to WIS 35 South would also bypass the roundabout. A roundabout provides the benefit of allowing a vehicle to reverse its direction (u-turn).

Pedestrians would cross WIS 35 just south of the US 14/61/WIS 35 roundabout to access the Maple Grove Neighborhood and Southern Bluffs Elementary School.

The 33rd Street intersection would also be constructed as a two-lane roundabout with this alternative. A two-lane roundabout at 33rd Street would operate at or near its capacity with some delay on all approach legs likely. The estimated construction cost for this alternative would be $4.6 million (not including property acquisition/relocation costs).

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10.2.2.5 Roundabout at US 14/61/WIS 35 Intersection and Right-in/Right-out at 33rd Street Intersection

This alternative includes a two-lane roundabout at the location of the existing US 14/61/WIS 35 intersection (see Figure 19, Intersection Alternative 3). Travel from westbound US 14/61 to northbound Mormon Coulee Road would be accommodated by a free-flow bypass. The southbound movement from Mormon Coulee Road to WIS 35 South would also bypass the roundabout. Approach speeds to the roundabout would be reduced to approximately 20 mph. A roundabout provides the benefit of allowing a vehicle to reverse its direction.

Pedestrians would cross WIS 35 just south of the US 14/61/WIS 35 roundabout to access the Maple Grove Neighborhood and Southern Bluffs Elementary School.

The 33rd Street intersection would be limited to right-in/right-out movements only by construction of a median through the intersection. Vehicles traveling westbound on 33rd Street would be able to head south on Mormon Coulee Road via a median opening located north of the 33rd Street intersection. Eastbound 33rd Street vehicles wishing to travel northbound on Mormon Coulee Road would use the US 14/61/WIS 35 roundabout to reverse direction.

The intersection would include dedicated right-turn lanes on Mormon Coulee Road for both the northbound and southbound intersection approaches. The dedicated lanes would improve the intersection efficiency by removing turning vehicles from the main traffic stream. In addition, there would be greater certainty to find gaps in the intersection as drivers executing turns would be clearly visible in the turn-lanes.

This alternative requires some indirection for 33rd Street users, but would have less delay than waiting to make a left-turn at an unsignalized 33rd Street intersection. The estimated construction cost for this alternative would be $4.6 million (not including property acquisition/relocation costs).

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10.2.2.6 Roundabout at US 14/61/WIS 35 Intersection and Signalized/Unsignalized 33rd Street Intersection

This alternative includes a two-lane roundabout at the location of the existing US 14/61/WIS 35 intersection (see Figure 20, Intersection Alternative 4). Travel from westbound US 14/61 to northbound Mormon Coulee Road would be accommodated by a free-flow bypass lane. The southbound movement from Mormon Coulee Road to WIS 35 South would also bypass the roundabout. Approach speeds to the roundabout would be reduced to approximately 20 mph. A roundabout provides the benefit of allowing a vehicle to reverse its direction.

Pedestrians would cross WIS 35 just south of the US 14/61/WIS 35 roundabout to access the Maple Grove Neighborhood and Southern Bluffs Elementary School.

The 33rd Street intersection was evaluated as both signalized and unsignalized. The intersection would include dedicated right-turn and left-turn lanes on Mormon Coulee Road for both the northbound and southbound intersection approaches. The dedicated lanes would improve the intersection efficiency by removing turning vehicles from the main traffic stream. The dedicated right-turn lanes would allow greater visibility for left-turning vehicles entering Mormon Coulee Road from 33rd Street. In addition, there would be greater certainty to find gaps in the intersection as drivers executing turns would be clearly visible in the turn-lanes.

Considering 2030 traffic conditions, an usignalized 33rd Street intersection would experience significant delay on both 33rd Street approaches. The delay would result from a lack of gaps to accommodate left-turns from 33rd Street onto Mormon Coulee Road.

A signalized 33rd Street intersection would function adequately in year 2030, but would not meet warrant criteria for implementation. The estimated construction cost for this alternative would be $4.7 million (not including property acquisition/relocation costs).

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10.2.2.7 Interchange at US 14/61/WIS 35 Intersection and Right-in/Right-out at 33rd Street Intersection

This alternative includes a modified diamond interchange at the existing US 14/61/WIS 35 intersection (see Figure 21, Intersection Alternative 5). The southbound and northbound movements between Mormon Coulee Road and WIS 35 South would be unrestricted via a structure passing over the US 14/61 intersection. Interchange ramps would accommodate the other movements as well as reverse direction from the 33rd Street intersection. The US 14/61 westbound to Mormon Coulee Road northbound movement would be provided with a single-lane free-flow ramp that would merge into a two-lane interchange ramp. Northbound Mormon Coulee Road would consist of two travel lanes with a third auxiliary lane terminating at a right-turn lane at 33rd Street. The southbound interchange ramp would merge with the mainline south of the existing Sunnyside Drive intersection.

Pedestrians would be able to access the Maple Grove Neighborhood and Southern Bluffs Elementary School via a crossing through the interchange (under the new structure).

The 33rd Street intersection would be limited to right-in/right-out movements only by construction of a median from the interchange through the intersection. The median would be required to accommodate the safe operation of the interchange and ramps, limiting all access between it and 33rd Street to right-in/right-out. Vehicles would be required to use either the median opening north of 33rd Street or the interchange to reverse direction. This alternative requires some indirection for 33rd Street users. However it does operate well and would be more efficient than waiting to make a left-turn at an unsignalized 33rd Street intersection.

The intersection would include dedicated right-turn lanes on Mormon Coulee Road for both the northbound and southbound intersection approaches. The dedicated lanes would improve the intersection efficiency by removing turning vehicles from the main traffic stream. In addition, there would be greater certainty to find gaps in the intersection as drivers executing turns would be clearly visible in the turn lanes.

Because of its close proximity to the northbound offramp, direct access to WIS 35 South from Old Town Hall Road and Riverview Drive would be removed. Sunnyside Drive access would be limited to right-in/right-out with left-turns from WIS 35 allowed. Left-out access to WIS 35 South from the intersection would be prohibited because of the proximity of the southbound interchange onramp. Vehicles wishing to travel south on WIS 35 would need to first travel north and reverse direction via the interchange ramps.

A significant issue with this alternative is that access to Sunnyside Drive from westbound US 14/61 is not able to be provided without the development of local circulation improvements. Alternate access would need to be provided by a local route to address this issue. The estimated construction cost for this alternative would be $9.7 million (not including property acquisition/relocation costs).

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10.2.2.8 Modify Existing US 14/61/WIS 35 Intersection with Southbound to Eastbound Free-flow Ramp and Right-in/Right-out or Unsignalized 33rd Street Intersection

This alternative would modify the existing at-grade US 14/61/WIS 35 intersection with the addition of a southbound to eastbound free-flow ramp over the intersection (see Figure 22, Intersection Alternative 6). The westbound to northbound movement would also be accommodated via a free-flow ramp.

Pedestrian accommodations would be provided on the structure over the intersection and would provide pedestrian access to the Maple Grove Neighborhood and Southern Bluffs Elementary School with no at-grade pedestrian crossings.

The 33rd Street intersection was evaluated as both an unsignalized intersection, and limited to right-in/right-out.

The right-in/right-out intersection would include dedicated right-turn lanes on Mormon Coulee Road for both the northbound and southbound intersection approaches. The unsignalized intersection would also include dedicated left-turn lanes. The dedicated lanes would improve the intersection efficiency by removing turning vehicles from the main traffic stream. In addition, there would be greater certainty to find gaps in the intersection as drivers executing turns would be clearly visible in the turn lanes.

Considering 2030 traffic conditions, an unsignalized 33rd Street intersection would experience significant delay on both 33rd Street approaches. The delay would result from a lack of gaps to accommodate left-turns from 33rd Street onto Mormon Coulee Road.

The construction of a median through the 33rd Street intersection would limit turns to right-in/right-out movements only. Vehicles traveling westbound on 33rd Street would be able to head south on Mormon Coulee Road via a median opening located north of the 33rd Street intersection. A significant limitation of this alternative is the inability of eastbound 33rd Street vehicles desiring to travel northbound on Mormon Coulee Road to reverse direction until the Sunnyside Drive intersection. The right-in/right-out option requires some indirection for 33rd Street users, but it operates well and would be more efficient than waiting to make a left turn at an unsignalized 33rd Street intersection.

Because of its close proximity to the intersection, direct access to WIS 35 South from Old Town Hall Road would be removed. Riverview Drive access could either be removed via a cul-de-sac, or limited to right-in/right-out. Sunnyside Drive access would remain as a full access intersection to accommodate school traffic. The estimated construction cost for this alternative would be $7.4 million (not including property acquisition/relocation costs).

10.2.2.9 Grade-Separated Roundabout at US 14/61/WIS 35 Intersection

At the end of the study, the city of La Crosse suggested an additional alternative for long-term consideration; a grade-separated roundabout.

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10.3 Multimodal Strategies and Recommendations

Multimodal strategies and recommendations include bike, pedestrian, and transit accommodations as well as linkages between all three modes. In addition to specific mainline and intersection strategies outlined below, the following issues should also be considered:

- Review sidewalk connections along the corridor and provide connections where gaps currently exist along side roads. Improve sidewalk quality and provide pedestrian-scale lighting.
- Provide pavement striping for the nine legally marked crosswalks to allow for safer pedestrian crossing.
- All transit stops should be connected to the local sidewalk system. Stops should be located to accommodate safe pedestrian travel from the stop to destinations. Lighting should be at safe levels. Bike racks are currently provided on all buses.
- Consider a connection along WIS 35 South to Goose Island County Park to accommodate both bike and pedestrian travel between the urban corridor and the park.
- Consider the Great River Road designation and opportunities to enhance or accommodate bike travel along the facility.
- Consider connections from the study area to area recreational trails and bike commuting routes such as the Mississippi River Trail and Great River Trail systems.
- Support the proposal of the Mormon Creek Trail near Southern Bluffs Elementary School and Goose Island County Park.
- Add signage that promotes driver awareness of bike and pedestrian users such as "Share the Road" signs as a short-term measure, specifically at the US 14/61/WIS 35 intersection.

All of the level 2 mainline alternatives provide a wide 14 foot outside lane to accommodate bike travel. South Avenue/Mormon Coulee Road is not currently the preferred bike route in this portion of the city of La Crosse. However, it does experience bike traffic on a regular basis. Multi-modal considerations in addition to the wide outside lane could include:

- Provide bike accommodations to cross Mormon Coulee Road at the Shelby Road intersection.
- Provide bike accommodations in all four quadrants of the East Avenue/Ward Avenue intersection.
- Provide clear bike delineation and/or protection between the existing 33rd Street Trail and the South 33rd Street/Mormon Coulee Road intersection to minimize conflicts and confusion between bike traffic and drivers.
- Consider a box culvert somewhere along WIS 35 south of the US 14/61/WIS 35 intersection to allow bikes and pedestrians a safe crossing of the highway.

The US 14/61/WIS 35 intersection alternatives include pedestrian facilities. The facilities are placed in each of the six alternatives to connect the urban

segment to the Maple Grove neighborhood and Southern Bluffs Elementary School. Pedestrian facilities vary between the alternatives, but have been enhanced from the current lack of a sidewalk and marked crossing of WIS 35 South. Some of the enhancements include:

- Marked crosswalks
- Two-stage crossing, or crossing one direction of traffic at a time by providing a pedestrian refuge in the median.
- Placing pedestrian facilities on the south side of the intersection to reduce the number of conflicts between pedestrians and motor vehicles entering the intersection.
- Pedestrian signals for the southbound free flow lane.

10.4 Access Management Strategies and Recommendations

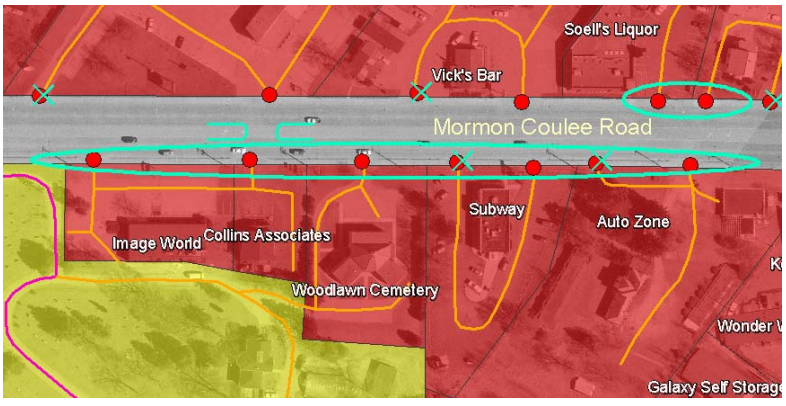
All of the level 2 alternatives assume that access management strategies would be implemented as opportunities become available or the need arises. Access management has been the focus of a number of studies across the country, and more State DOTs are beginning to incorporate access management strategies into their highway improvement projects to enhance safety, operations, and mobility (see Section 8.5, Corridor Access Inventory for a discussion of the relationship of access to traffic operations). Strategies to consider include consolidation, elimination, and relocation of some private driveways. In addition, local street connections should be provided in some areas of the corridor to enhance local traffic circulation.

10.4.1 Driveway Consolidation

Consolidation means the reduction in the number of adjacent driveways to the minimum needed for safe and efficient ingress and egress to/from a parcel (see Figure 23, Driveway Consolidation Example). Driveway consolidation can be achieved through a voluntary agreement between WisDOT and the local land owner at any time, or it can be considered when safety becomes an issue or as land uses change in the future.

An example of the latter opportunity would be if three adjacent commercial properties (each with one driveway) were to be purchased and consolidated converting from three separate businesses into one large volume retail business. The three existing driveways could be reduced to one or two strategically placed driveways.

Figure 23 – Driveway Consolidation Example



10.4.2 Driveway Elimination

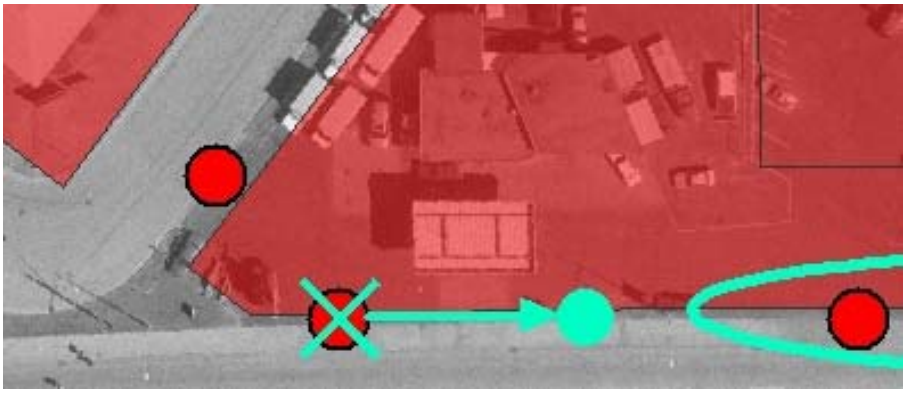
In some cases, a property owner may agree to remove direct access to South Avenue/Mormon Coulee Road if access is available on a local roadway, or the property is served by more than one driveway. In those instances where a structure has been constructed on a property to make a driveway obsolete, but the curb-cut still remains, WisDOT, the Town of Shelby, and the City of La Crosse should remove the access via reconstruction of the curb and gutter.

Other criteria for driveway removal include driveways located within the functional area of the intersection that pose a safety hazard to vehicular traffic using the intersection. WisDOT has the authority to take corrective action in the interest of public safety in these situations.

10.4.3 Driveway Relocation

Relocating driveways in close proximity to an adjacent intersection helps maintain and/or improve the function of the intersection. Driveways that are located too close to an intersection can pose safety and operational challenges. Some examples include difficulty anticipating where a vehicle is likely to turn, left-turns into a driveway too close to the intersection, and difficulty entering or exiting the driveway because of intersection queues blocking the driveway. Relocating the driveway farther away from the intersection often remedies or improves these situations (see Figure 24, Driveway Relocation Example).

Figure 24 – Driveway Relocation Example

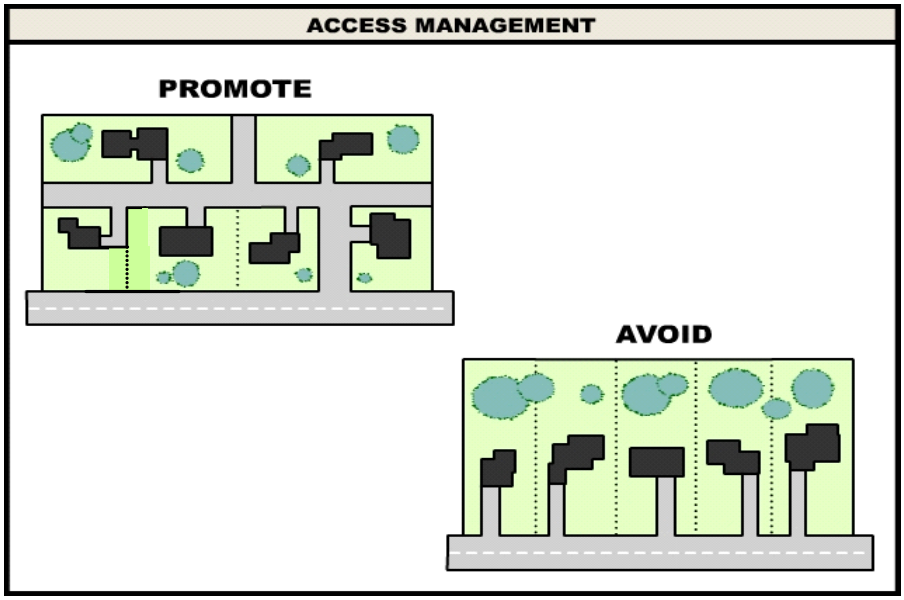


10.4.4 Local Circulation

Providing alternative routes for short vehicle trips (origins and destinations close to one another) can improve the efficiency of the US 14/61/WIS 35 corridor. This is accomplished by reducing the number of local trips that are forced to use the state highway system. Short trips often compete with vehicles traveling longer distances. Typically the state highway system's primary function is to provide regional mobility with access being a secondary function.

Because of development patterns in urbanized areas, the state highway system is often the primary method in which local access is provided. Future decisions for the state highway must consider how to balance regional mobility with local access needs. One method is to provide alternate local routes and connectivity by providing a greater number of choices for vehicles to reach their destination (see Figure 25, Local Circulation Example).

Figure 25 – Local Circulation Example



All of the level 2 Mainline Alternatives and the US 14/61/WIS 35 intersection alternatives include strategies to enhance local circulation. The key locations in which local circulation should be considered include:

- Between Markle Road and Wal-Mart – Pedestrian access is currently provided between Wal-Mart and the neighborhood along Markle Road. This access should be expanded to allow vehicular access to the store.
- Between Wal-Mart entrance and Lakota Court – With the installation of the signal at the entrance to the Wal-Mart store, traffic patterns have reduced the function of the North Marion Road intersection. Many local residents currently use Lakota Court to negotiate traffic at the Wal-Mart signalized intersection. This connection would provide access to northbound Mormon Coulee Road as traffic increases in the future. It would also provide local access to Wal-Mart, improving the convenience for local residents to get to the store.
- Bridge over Pammel Creek – The only access to the mobile home park is currently via 33rd Street. The pedestrian bridge over Pammel Creek can accommodate an emergency vehicle if access to 33rd Street is obstructed by the railroad. However, this does not accommodate other vehicle trips to and from the park. In addition, the railroad located east of the mobile home park and Mormon Coulee Road limits opportunities to provide multiple access points to Mormon Coulee Road. Currently, there is one crossing of the railroad corridor at 33rd Street. If a train were to be stalled or derailed on this segment of the railroad corridor, the mobile home park would be without access. Residents must rely solely on the single access point for any trips regardless of whether they are local or regional in nature. An upgraded structure over Pammel Creek with a connection to Scarlett Drive would provide alternative access to the area.
- Between 33rd Street and Calvert Road – As the number of vehicles using the US 14/61/WIS 35 intersection increases, the proximity of Calvert

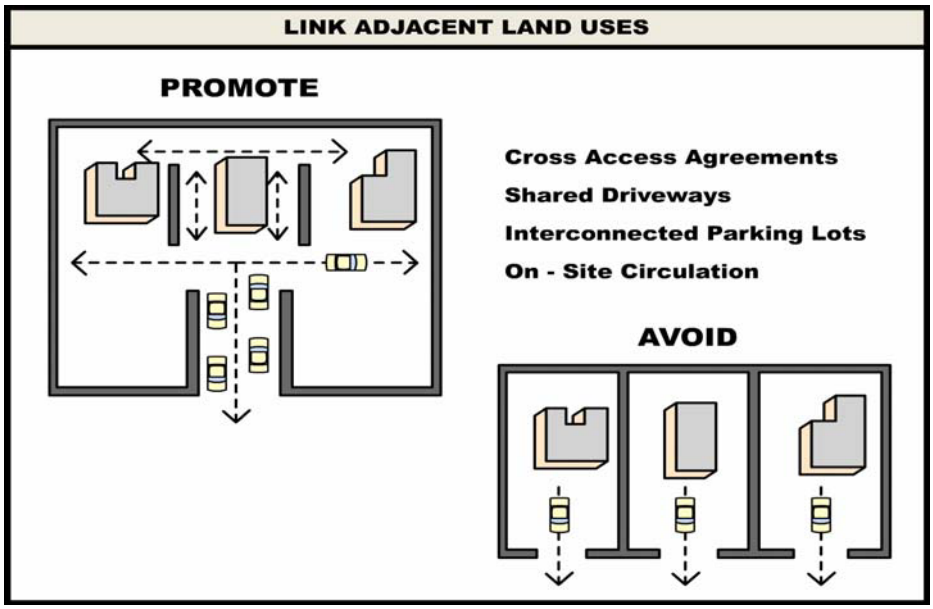
Road to the intersection may increase the difficulty of turning left onto Mormon Coulee Road. A local connection between 33rd Street and Calvert Road would allow vehicles to use 33rd Street for left turns.

- Between Calvert Road and WIS 35 South – The US 14/61/WIS 35 intersection is currently the only option for vehicles to travel between the southern limits of the City of La Crosse and communities on the south side of La Crosse County. An emergency situation requiring the closing of the intersection would block vehicular movement between the two areas. A parallel connection to the intersection would allow for a temporary bypass to be created.
- Between Sunnyside Drive and US 14/61 – Existing traffic from the Maple Grove residential area and the Southern Bluffs Elementary School must use the US 14/61/WIS 35 intersection to travel east on US 14/61/WIS 35. A local connection would allow eastbound travel from this neighborhood without the requirement of using the existing intersection. This connection would also provide a temporary bypass of the existing intersection in case it is obstructed.

10.4.5 Cross Access

Another method to promote local circulation is to provide cross access between properties along South Avenue/Mormon Coulee Road. Cross access can be achieved by connecting parking lots and promoting efficient channelization between those lots, or can include private or public street connections between adjacent properties (see Figure 26, Cross Access Example). Cross access agreements between commercial properties along the corridor would allow a vehicle to frequent multiple businesses easily without the need to travel on South Avenue or Mormon Coulee Road.

Figure 26 – Cross Access Example

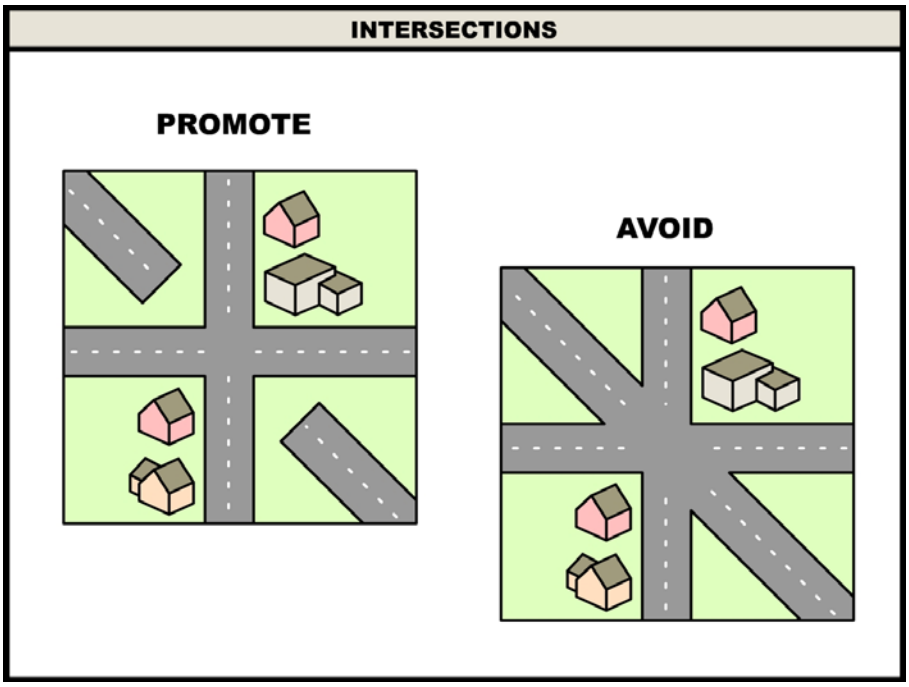


10.4.5.1 Six-Leg Intersections

There are a number of six-leg intersections located along South Avenue north of the East/Ward Avenue intersection. These intersections provide access to

low volume intersecting residential streets in the majority of cases. Because these intersections result in intersection angles less than 90 degrees, and have more than four legs, it can be difficult for drivers to have a full view of all of the intersection approaches before entering the intersection, potentially posing a safety hazard (see Figure 27, Six-leg Intersections). Under current traffic volumes, these intersections have not experienced a significant number of crashes and appear to function adequately. However, under 2030 traffic volumes, intersection operations would likely become problematic. Any future roadway improvements along this portion of South Avenue must consider balancing the safety needs with local access at these intersections.

Figure 27 – Six-leg Intersections



Each of the level 2 Mainline Alternatives addresses the need to provide safe and efficient public street access with South Avenue north of the East/Ward Avenue intersections. The strategy employed includes closing some of the existing intersecting streets. The closures are carefully considered to balance local circulation and access needs with the safety and efficiency of South Avenue traffic. There would be no intersections with more than four approach legs. Public streets proposed to be closed as part of the level 2 mainline alternatives include:

- Weston Street
- Horton Street (both approaches)
- 13th Street South
- 13th Place South (north/east approach)
- Bennett Street
- Townsend Street
- 15th Street

- Chase Street
- Thompson Street
- 17th Street
- East Avenue (right-turn out allowed)

10.5 Urban Design Strategies and Recommendations

All of the mainline alternatives as well as the intersection system alternatives include aesthetic considerations and treatments. Examples of aesthetic opportunities are included in the sections that follow.

10.5.1 Urban Design and Corridor Aesthetics

Corridor aesthetics can play an important role in how inviting and comfortable a corridor can feel for the auto, bicycle, and pedestrian user. The study included an expert review of existing corridor conditions and identification of opportunities for aesthetic enhancements and urban design elements (see Figure 28, Urban Design Issues and Opportunities).

Urban design elements and aesthetic enhancements include:

- Relocate and bury overhead utilities to remove visual clutter and promote a human scale.
- Promote community-oriented development such as inside-out development with buildings closer to the sidewalk and parking on the interior of lots, infill development, blocks, and liner shops to reduce the auto-dependent feel of the corridor.
- Increase pedestrian lighting at crosswalks and transit stops to provide a safe crossing and increase visibility of pedestrians.
- Provide a grass terrace and wider six foot sidewalks to separate pedestrian zones from vehicular traffic and improve pedestrian comfort. Planting street trees in terrace areas provides shade to users, acts as a barrier between traffic and pedestrians, and adds a formal, uniform feel to the corridor.
- Enhance corridor aesthetics and promote a corridor-wide theme to create a sense of community. This can be achieved through uniform lighting, signage such as banners, benches, pavement coloring and patterns, or other elements such as planters.
- Provide adequate multi-modal accommodations such as benches and shelters, and ensure that these elements are uniform throughout the corridor. Bus stops should all be served by sidewalks and safety lighting.
- Clean up visual clutter by removing billboards and applying uniform standards for commercial signs. Directional and way finding signage should be consistent as well.
- Encourage and support businesses so that they can improve facades, signage, and landscaping.

Figure 28 – Urban Design Issues and Opportunities

<<pocket with sticker>>

10.5.2 US 14/61/WIS 35 Intersection Aesthetics

Many communities use transportation facilities as an opportunity to establish entrances or gateways to their community. Gateways offer a sequence of views from the road, which play a part in determining a traveler's first impression of a place.

The US 14/61/WIS 35 intersection is the informal entrance to the south La Crosse area. This location lies on the border between rural land uses and the more urbanized corridor to the north. In addition, a significant bluff feature is also present at the intersection. The Mississippi River is visible from the westbound approach, and the intersection lies on the Great River Road corridor.

The intersection is geographically well situated with a number of natural features present for the installation of a gateway to the City of La Crosse. As can be seen in Figure 29, Example Roundabout with Gateway, a roundabout alternative for the intersection would provide adequate space for a three dimensional gateway (such as a sculpture) that can be viewed from all of the intersection approaches. However, a gateway should not be eliminated from further consideration if a roundabout alternative is not chosen for the US 14/61/ WIS 35 intersection.

In addition to considerations of landscaping, and other physical and natural elements, preservation of the approach view shed of the intersection is also important. Land uses in the immediate vicinity of the intersection should promote the sense that this is a gateway to the community. Land use patterns near the gateway area should consist of complementary uses rather than billboards, high-rise structures, or industrial and other activities that may detract from the gateway theme.

Urban design elements along Mormon Coulee Road should include similar elements to the gateway to create a sense of uniformity. This can be achieved through similar shapes, colors, or patterns, or can be achieved through landscaping and other design elements such as lighting, benches, planters, and bus shelters (see Figure 30, Example Mormon Coulee Road Corridor).

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10.5.3 Implementation of Urban Design Elements

There are a number of tools available for local communities to implement the use of urban design elements along a transportation corridor.

10.5.3.1 Community Sensitive Design (CSD) of WisDOT projects

A portion of funds issued for an improvement project may be designated for design elements that are considered sensitive to the community. It is important to note that the designation is not additional funding, but a portion of the funding for a project. Implementing Community Sensitive Design (CSD) principles may require cut backs in design elements to accommodate the cost of implementing them. In addition, the local community may need to provide additional funding for implementation.

The inclusion of CSD into WisDOT projects provides greater flexibility for the designer and the community between balancing WisDOT standards for improvement projects and providing urban design elements that would otherwise conflict with those standards.

The local community should coordinate with WisDOT early in the design process to determine design elements that can be incorporated into a project, and funding responsibilities for implementation.

10.5.3.2 Tax Increment Financing (TIF)

The primary purpose of Tax Increment Financing (TIF) is to encourage development of commercial, industrial, and other growth in blighted or underdeveloped areas of the community. A city or village can identify districts with plans to improve property values within those districts. Taxes generated as property values increase from new development can be used to fund public works and other infrastructure projects within the district. These funds could be used for corridor enhancement through aesthetic treatments as part of public works projects. There are specific laws and regulations limiting the use of TIF districts. In addition, the implementation of a district requires approval of multiple governing jurisdictions.

10.5.3.3 Great River Road Designation

The Great River Road is a multi-state national scenic byway falling under the jurisdiction of the Mississippi River Parkway Commission (MRPC). The MRPC is a non-profit organization that coordinates efforts on federal, state, and local levels to find funding for highway improvements, recreation trails, bikeways, scenic overlooks, and historic preservation.

In addition to the efforts of the MRPC, funding is available through competition for National Scenic Byways Discretionary Grants as part of the National Scenic Byways Program administered by the Federal Highway Administration. Wisconsin State stats. s. 84.106 establishes a Wisconsin Scenic Byways Program included in Chapter 202 of the Wisconsin Administrative Code.

10.5.3.4 Comprehensive Planning

Discussion of special areas within a community for urban design enhancements can be included as part of the land use, economic development, or transportation components of the community's comprehensive plan. The planning stage is where the community identifies

priorities for implementation of urban design elements, specific locations of significance, and opportunities for aesthetic enhancements. The legwork performed as part of the comprehensive planning process can identify a general direction for development of urban design guidelines and changes needed to the existing zoning code to achieve implementation.

10.5.3.5 Overlay Zoning

An overlay zone is designed to place additional restrictions to the base zoning districts that it is placed on. Often, if the code between the districts differs, the most restrictive ordinance is enforced.

Overlay zones can be used to protect sensitive and valuable resources along natural features, roadway corridors, and culturally significant areas. In this way, a highway corridor could have multiple districts such as residential, commercial, and industrial, with each of the base districts also having similar requirements where urban design and corridor aesthetics is concerned as part of the overlay district that is created.

10.5.3.6 Design Guidelines

Design guidelines address aesthetics and compatibility of buildings with their environment. They encourage corridor enhancement by promoting the construction of buildings or properties that are attractive and enhance the community context in which they are constructed. They are often developed to coincide with specific districts, neighborhoods, or corridors, especially in larger communities with variable character.

Design guidelines are not the same as "standards" because they are flexible allowing variation between structures, sites, and properties to promote creativity and avoid uniformity. Design guidelines should consider local comprehensive planning, zoning ordinances, subdivision ordinances, building codes, and other plans. Guidelines should also be crafted for easy understanding by users in order to limit personal opinion and be legally defensible. Unlike the ordinance based overlay zone, design guidelines often employ a review process to determine if a proposal meets the spirit of the guidelines.

10.5.3.7 Sign Ordinances

Ordinances relating to signs can be applied in overlay zones or as part of an administrative review process. Often these ordinances are intended to preserve views of cultural and natural resources or preserve the character of a neighborhood. Sign ordinances should complement design guidelines and other ordinances that address the form of a structure or site.

10.5.3.8 Transportation Equity Act (TEA-21) Funds

WisDOT receives funds to provide local transportation enhancements as part of the Federal Transportation Equity Act for the 21st Century (TEA-21). WisDOT's Transportation Enhancements (TE) Program is designed to fund projects that increase multi-modal transportation alternatives and enhance community transportation environments.

Eligible construction projects must be over $100,000 and relate to surface transportation. Environmental documents, plans, specifications, and estimates to construct a project for a future date must be more than $25,000

to be eligible. Under the program 20 percent of funding must come from local sources, and up to 80 percent of the cost is reimbursed over time.

In addition to multi-modal, bike and pedestrian enhancements, the types of urban design projects that could qualify for TE funding include:

- Acquisition of scenic easements and scenic or historic sites
- Scenic or historic highway programs
- Landscaping and other scenic beautification
- Control and removal of outdoor advertising

10.6 Regulatory Ordinance Strategies and Recommendations

Local ordinances, regulations, and land use controls can be implemented or updated to protect investments in transportation infrastructure. Transportation supportive ordinances would support the preservation of investments and help promote balanced and coordinated land use and transportation planning. Local ordinances in both the City of La Crosse and the Town of Shelby should be reviewed to determine if they perform this function. Local ordinances should:

- Provide a balanced transportation system and local traffic circulation
- Preserve appropriate future right-of-way
- Promote access management
- Promote access point location and spacing standards
- Promote proper roadway/driveway convergence angles
- Provide corner vision triangles and safe intersection access
- Promote functional parking lots and internal site circulation
- Avoid flag lots with narrow frontage along a roadway

10.7 Matrix of Strategies and Recommendations

The matrix that follows provides a comprehensive list of the strategies and recommendations of this report. A possible implementation timeframe is provided as part of the matrix for reference purposes only. The suggested timeframe helps to identify those recommendations that could be implemented now versus those that may depend upon other factors occurring first, such as an increase in traffic volumes, congestion, etc., before implementation would be recommended. It is not the purpose of this report to identify a preferred alternative for adoption.

Table 15 – Strategies & Recommendations Implementation Timeframe

Strategy/Recommendation	Implementation Timeframe			
	Report Section #	Short-term 2005 - 2010	Intermediate-term 2010 - 2015	Long-term 2015+
Mainline Improvements				
Maintain the existing four-lane facility with spot improvements.	10.1.1	√	√	
Further evaluate the urban segment to determine the preferred mainline alternative	10.1.2		√	√
Intersection Improvements				
Make improvements to intersection geometry and adjust signal timing and coordination along South Avenue/Mormon Coulee Road as needed.	10.2.1	√	√	√
Convert West Avenue to a four-leg intersection by closing access to and from the minimally used west leg of the five-leg intersection. Apply split phasing to the northbound/southbound West Avenue approaches.	10.2.1	√		
Add 200 foot right-turn lanes to South Avenue/Mormon Coulee Road at the East Avenue/Ward Avenue intersection. Modify the north intersection leg of East Avenue to right-out only and apply split phasing to the remaining side-street approaches.	10.2.1	√	√	
Modify the westbound approach of the Losey Boulevard intersection from its current lane configuration (one left, one shared left-through, and one shared through-right) to dual left-turn lanes and one shared through-right lane. Apply split phasing to the Losey Boulevard approaches. Apply permitted-protected phasing for the Mormon Coulee Road approaches.	10.2.1	√	√	
Add 200 foot right-turn lanes to Mormon Coulee Road at the Birch Street intersection. On the southwest Birch Street leg, add a 200 foot right-turn lane and modify lanes for a left-turn lane, shared left-through lane, and a right-turn lane. Apply permitted-protected phasing for the Mormon Coulee Road approaches.	10.2.1	√		
Add 200 foot right-turn lanes to Mormon Coulee Road at the Broadview/Shelby Road intersection. Apply permitted-protected phasing for the Shelby Road and Broadview Place Approaches.	10.2.1	√	√	

Strategy/Recommendation	Implementation Timeframe			
	Report Section #	Short-term 2005 - 2010	Intermediate-term 2010 - 2015	Long-term 2015+
Add a third exit lane from Wal-Mart at the Mormon Coulee Road intersection. Modify the eastbound approach (Wal-Mart egress) for a left-turn lane, shared left-through lane, and a right-turn lane. Apply split phasing to the side street approaches and apply permitted-protected phasing for the Mormon Coulee Road approaches.	10.2.1	√	√	
Evaluate intersections along South Avenue and Mormon Coulee road for either signalized, two-lane roundabout, or three-lane roundabout options when considering a mainline alternative for implementation.	10.2.2.1		√	√
Further evaluate the US 14/61/WIS 35 intersection to determine the preferred intersection alternative.	10.2.2.2		√	√
Access Management & Local Circulation				
Consider consolidation, elimination, and relocation of some private driveways.	10.4	√	√	√
Provide a local connection between Maple Grove Neighborhood and US 14/61.	10.4.4		√	√
Provide a local connection between 33rd Street and Calvert Road.	10.4.4			√
Enhance local circulation between Wal-Mart and Markle Road to allow another vehicular entrance/exit.	10.4.4		√	√
Provide a local connection between Lacota Court and Wal-Mart.	10.4.4		√	√
Provide an alternate connection between Mormon Coulee Road and WIS 35 South west of the US 14/61/WIS 35 intersection.	10.4.4			√
Enhance the existing pedestrian bridge over Pammel Creek to accommodate vehicular traffic.	10.4.4		√	√
Convert six leg intersections to have no more than four approach legs.	10.4.5.1	√	√	
Bicycle Accommodations				
Support the proposal of the Mormon Creek Trail near Southern Bluffs Elementary School and Goose Island County Park.	10.3	√	√	√
Promote a Goose Island Connector Trail connecting the 33rd Street Trail to Goose Island County Park.	10.3			√

Strategy/Recommendation	Implementation Timeframe			
	Report Section #	Short-term 2005 - 2010	Intermediate-term 2010 - 2015	Long-term 2015+
Provide 14 foot outside travel lanes for safer bicycle routes.	10.3			√
Provide bicycle accommodations to cross Mormon Coulee Road at the Shelby Road intersection.	10.3	√		
Provide clear bike delineation and/or protection between the existing 33rd Street Trail and the South 33rd Street/Mormon Coulee Road intersection.	10.3	√		
Consider a box culvert somewhere along WIS 35 south of the US 14/61WIS 35 intersection to allow bicycle and pedestrians a safe crossing of the highway.	10.3	√	√	√
Provide bike accommodations in all four quadrants of the East Avenue/Ward Avenue intersection.	10.3	√		
Add signage that promotes driver awareness of bike users such as "Share the Road" signs.	10.3	√		
Pedestrian Accommodations				
Provide pedestrian facilities for the at-grade US 14/61/WIS 35 intersection alternatives along the west side of the intersection with a crossing to the Maple Grove neighborhood south of the intersection. For the interchange and free-flow intersection alternatives, pedestrian accommodations can be incorporated into the intersection design to provide connectivity to the neighborhood.	10.2.2.2		√	√
Improve sidewalk quality and connectivity where possible along the corridor. Possibly provide for improved pedestrian-scale lighting.	10.3	√	√	
Provide pavement striping for the nine legally marked crosswalks to allow for safer pedestrian crossing.	10.3	√		
Transit Accommodations				
Consider pedestrian travel from bus stops to destinations when placing stop locations	10.3	√		
Connect bus stops and shelters to the sidewalk system.	10.3	√		

Strategy/Recommendation	Implementation Timeframe			
	Report Section #	Short-term 2005 - 2010	Intermediate-term 2010 - 2015	Long-term 2015+
Urban Design and Corridor Aesthetics				
Increase pedestrian lighting at crosswalks to increase visibility of pedestrians.	10.5.1	√	√	
Relocate and bury overhead utilities to remove visual clutter and promote a human scale.	10.5.1			√
Provide a grass terrace and wider six foot sidewalks to separate pedestrians from vehicular traffic and improve pedestrian comfort. Planting street trees in terrace areas provides shade to users, acts as a barrier between traffic and pedestrians, and adds a formal, uniform feel to the corridor.	10.5.1			√
Encourage and support businesses so that they can improve facades, signage, and landscaping.	10.5.1	√	√	√
Provide adequate multi-modal accommodations such as benches and shelters, and ensure that these elements are uniform throughout the corridor. Bus stops should all be served by sidewalks.	10.5.1	√	√	√
Enhance corridor aesthetics and promote a corridor-wide theme to create a sense of community. This can be achieved through uniform lighting, signage such as banners, benches, pavement coloring and patterns, or other elements such as planters.	10.5.1	√	√	√
Clean up visual clutter by removing billboards and applying uniform standards for commercial signs. Directional and way finding signage should be consistent as well.	10.5.1	√	√	√
Promote community-oriented development such as inside-out development with buildings closer to the sidewalk and parking on the interior of lots, infill development, blocks, and liner shops to reduce the auto-dependent feel of the corridor.	10.5.1	√	√	√
Provide a gateway at the US 14/61/WIS 35 intersection.	10.5.1	√	√	√